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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,858	09/05/2003	Gary D. Sharp	95121961.206001	7273

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EXAMINER	
BOUTSIKARIS, LEONIDAS	

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/655,858	SHARP, GARY D.	
	Examiner	Art Unit	
	Leo Boutsikaris	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 24-26 are objected to because of the following informalities:

Claims 24-25 recite "power spectrum", which lacks antecedent basis. It is suggested that said claims are made dependent from claim 23.

Claim 26 inherits the deficiency of claim 25 from which it depends.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 10-11, 16-30, 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Land (US 2,184,999) in view of Ogle (US 4,595,262).

Regarding claims 1, 35, Land discloses an optical filter for vision comprising:

an input polarizing element (polarizer) 12;

an output polarizing element (analyzer) 16; and

a retarder 14 between the input polarizer and the output analyzer;

wherein the input polarizer, the output analyzer, and the retarder, at least partially positioned in the field of view substantially filter at least one band of light, e.g., blue light (lines 21-43, col. 2).

However, even though Land discloses that multiple units such as the one shown in Fig. 1 can be used in series (see, for example Figs. 3 and 10), he does not teach that multiple retarder plates 14 can be used between a single pair of a polarizer and the corresponding analyzer, i.e., a retarder stack is disposed between the two polarizing elements. Ogle discloses a tunable filter used in conjunction with optical goggles, wherein multiple retarder elements (named "wide-field element" in Fig. 1) are disposed between an input polarizer 11 and an output polarizer (analyzer) 18 (line 39, col. 2 to line 37, col. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use multiple retarders between the input polarizer and the output analyzer in Land's filter, depicted in Fig. 1, as taught by Ogle, for increased flexibility in the design of the resulting spectrum, and for producing a more compact device (having fewer polarizer/analyzer elements).

Regarding claims 2-3, 17-18, 21-22, the optical filter of land is configured for human vision (see Fig. 8, lines 3-20, col. 4). It is noted that a human is a kind of animal.

Regarding claims 16, 19, 28-30, the filter of Ogle is used in conjunction with safety goggles to prevent harmful light rays from lasers.

Regarding claim 20, at least two bands of light are substantially attenuated (see Fig. 5 in Land).

Regarding claims 11, 34, Land teaches that the optical filter can be used for vision in areas, such as photography, and illumination (lines 3-8, col. 4). As described above, Ogle

discloses that the optical filter of Fig. 1 is used in conjunction with safety goggles, which is a type of visor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filter of Land in an article of eyewear, as taught by Ogle, since such filter would improve the vision of an observer exposed to an environment with varying lighting conditions. Appropriate design of the polarizer/retarders/analyzer produces an output spectrum to the observer's eye that best fits (and compensates) for the exterior lighting conditions.

Regarding claims 10, 23-26, 32-33, Land in view of Ogle disclose all the limitations of said claims except for explicitly teaching that the design of the optical filter is such that the output spectrum is such that color saturation is increased or that color blindness is improved, or that color neutral appearance occurs. It would have been obvious to one of ordinary skill in the art at the time the invention was made to design the polarizer/retarders/analyzer or Land to produce output spectra, recited in said claims, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235.

Regarding claim 27, the optical filter can be used in conjunction with a lens (lines 22-24, col. 7 in Thornton).

Claims 4-9, 12-15, 31, 36-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Land (US 2,184,999) in view of Ogle (US 4,595,262) and further in view of Thornton (US 4,826,286).

Land discloses that the design of the polarizer/analyzer (i.e., their relative orientation) as well as that of the retarder(s) (i.e., thickness, refractive indices, resulting retardation) uniquely determines the intensity of the output light (lines 1-23, col. 3). Land provides extensive mathematical tools that can be used to determine any desired output spectrum, and provides several examples of output spectra (see, for example, Figs. 4-8). However, Land does not explicitly teach the output spectra recited in said claims. Thornton teaches a color filter designed for good-seeing (and hence color-neutral-looking view) should exhibit a response as that shown in Fig. 9 (lines 45-50, col. 5). Observation of the spectrum shown in Fig. 9 of Thornton shows that such color filter filters at least one band of inter-primary light (e.g., near 500 nm), light of wavelength smaller or equal than 400 nm, or greater or equal than 700 nm, or of about 500 nm , or of about 580 nm, or at least two inter-primary bands of light (e.g., near 500 nm and near 580 nm), or reduce at least three near zero chromaticity response bands, or produces light having transmittancy at 450 nm, 540 nm and 610 nm that is greater than that at 500 nm or 580 nm. It would have been obvious to one of ordinary skill in the art at the time the invention was made to design the optical filter of Land in view of Ogle so that it produces light having spectrum like the one taught by Thornton, for providing a view at the observer's eye having a spectral content that best matches the observer's response.

Regarding claim 12, such a filter provides "good-seeing", and hence improves color deficient vision.

Regarding claim 45, the design of the filter of Land in view of Ogle and further in view of Thornton, takes into consideration the inherent spectral profile of the viewer's vision and

produces a desired spectral profile for said vision by use of the filter comprising the retarder stack disposed between an input polarizer and output analyzer.

Response to Arguments

Applicant's arguments with respect to claims 1-53 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 571-272-2308.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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December 16, 2005

LEONIDAS BOUTSIKARIS
PRIMARY EXAMINER